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Patent and Trademark Office**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/265,493	03/09/99	TANNENBAUM	D 15-4-806.00

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WM02/1206

EXAMINER

CHUNG, D

ART UNIT

PAPER NUMBER

2672

DATE MAILED:

12/06/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

SM

Office Action Summary

Application No.

09/265,493

Applicant(s)

TANNENBAUM, DAVID C.

Examiner

Daniel J Chung

Art Unit

2672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claims ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3,7.
- 18) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

DETAILED ACTION

Information Disclosure Statement

Receipt is acknowledged of Applicant's Information Disclosure Statements of 1-19-2000 and 8-8-2000, which have been placed in the application file and considered by the Examiner.

Drawings

The drawings are not objected to by the Draftperson as shown in the enclosed form PTO-948.

Specification

Applicant is respectfully requested to fill the blank in Specification (page 1 and 2) with proper U.S Patent Application number.

Please review the application and correct all informalities.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lathrop et al (5,097,427) in view of Ohazama (6,078,332).

Regarding claim 1, Lathrop et al discloses that the claimed feature of a method for applying texture mapping in per-pixel operations (See Abstract, Fig 1, col 2 line 60-col 4 line 25), the method comprising:

Receiving a plurality of parameters that define a pixel value at a pixel in a primitive (See Abstract, Fig 1, col 2 line 60-col 4 line 25)

Selecting a set of parameters (illumination values) from the plurality of parameters, the selected set of parameters (illumination values that changing by the light source) being associated with texture values (texture values representative of a selected texture pattern), one parameter per texture value, the parameters that are not selected defining [a set of unselected parameters] that have constant values over the primitive (See Abstract, Fig 1, col 2 line 60-col 4 line 25, col 4 line 50-col 5 line 56)

Determining a texture value for each of the selected parameters by accessing a set of textures, the texture value for the selected parameters varying over the primitive (See Abstract, Fig 1, col 2 line 60-col 4 line 25, col 4 line 50-col 5 line 56)

Evaluating (Combining Function in Fig 1) the pixel value by using the unselected parameters and the texture values, wherein the set of unselected parameters are not texture values and the texture values are associated with the selected parameters. (See Abstract, Fig 1, col 2 line 60-col 4 line 25, col 4 line 50-col 5 line 56)

Lathrop et al does not specifically disclose a set of unselected parameters, which have constant values over the primitive. However, Ohazama discloses that setting the lighting values as a constant within the unchanged scene (images with unchanging light value) in calculating the radiosity. (See col 1 line 53-col 2 line 16) The motivation would have been to provide fast image processing by eliminating the unnecessary computation for unchanged scene or images. Furthermore, classifying/separating the parameters between varying parameters (selected parameters in claim) and unvarying parameters (unselected parameters in claim) is a well known art which save processing time and cost in image processing. Therefore, it would have been obvious to one skilled in the art to incorporate the teaching of Ohazama into the teaching of Lathrop et al.

Regarding claim 2, Lathrop et al discloses that displaying the generated pixel light value on a display device. (See Abstract, Fig 1, col 2 line 60-col 4 line 25)

Regarding claim 3, Lathrop et al discloses that the plurality of parameters includes per-primitive parameters, which are defined over the entire primitive. (See Abstract, Fig 1, col 2 line 60-col 4 line 25)

Regarding claim 4, Lathrop et al discloses that the primitive is a polygon. (See Abstract, Fig 1, col 2 line 20-35, col 2 line 60-col 4 line 25)

Regarding claim 5, Lathrop et al discloses that the plurality of parameters includes both scalar and vector parameters. (See Abstract, Fig 1, col 1 line 51-62, col 2 line 60-col 4 line 25)

Regarding claim 6, Lathrop et al discloses that the plurality of parameters includes one or more of emission material color, ambient material color, global ambient light color, attenuation factor, ambient light color, diffuse material color, diffuse light color, specular material color, specular light color, a surface normal vector, a specular exponent, an environment map color, and a shadow color. (See Abstract, Fig 1, col 2 line 60-col 4 line 25)

Regarding claim 7, Lathrop et al discloses that the operation of determining the texture value further comprises the operation of:

Receiving texture coordinates for accessing the set of textures (See Abstract, Fig 1, col 2 line 60-col 4 line 25)

Accessing the textures in response to the texture coordinates to generate the texture values. (See Abstract, Fig 1, col 2 line 60-col 4 line 25)

Regarding claim 8, Lathrop et al discloses that the accessed texture includes a plurality of texture elements, the method further comprising the operation of:

Filtering the accessed texture elements of the texture map onto the selected pixel to generate the texture value associated with the pixel (See Abstract, Fig 1, col 2 line 60-col 4 line 25, col 7 line 39-48)

Regarding claim 9, Lathrop et al discloses that a light value is generated for the pixel value by evaluating a lighting equation that is defined in terms of the plurality of parameters. (See Abstract, Fig 1, col 2 line 60-col 4 line 25)

Regarding claim 10, Claim 10 is the corresponding device of claim 1. Thus, the rejection to claim 1 hereinabove is also applicable to claim 10.

Regarding claims 11-14, Claims 11-14 are respectively equivalent to claims 4,6,5 and 9, and thus the rejections to claims 4,6,5 and 9 hereinabove are also respectively applicable to claims 11-14, but applied in view of the rejections to base claim 10.

Regarding claim 15, Claim 15 is the corresponding computer graphics system of claim 1. Thus, the rejection to claim 1 hereinabove is also applicable to claim 15.

Regarding claims 16-20, Claims 16-20 are respectively equivalent to claims 6,5,9,4 and 8, and thus the rejections to claims 6,5,9,4 and 8 hereinabove are also

respectively applicable to claims 16-20, but applied in view of the rejections to base claim 15.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Any response to this action should be mailed to:

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or faxed to:

(703) 308-9051, (for formal communications intended for entry)

Or:

(703) 308-6606 (for informal or draft communications, please label "PROPOSED" or "DRAFT").

Hand-delivered responses should be brought to Crystal Park II, 2021 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Chung whose telephone number is (703) 306-3419. He can normally be reached Monday-Thursday and alternate Fridays from 7:30am - 5:00pm. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Michael, Razavi can be reached on (703) 305-4713. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

djc



**MATTHEW LUU
PRIMARY EXAMINER**

Application/Control Number: 09/265,493

Art Unit: 2672

Page 8

November 30, 2000